This case will be a curious one to watch, both in a pathological and physiological point of view. Will such a section of bone be able to sustain itself and the inclosed teeth? will new teeth replace the old ones when cast off? will this fragment of jaw have sufficient strength for mastication? I hope to be able to keep a watch upon the case through my friend, Dr. Reese.

Art. IX.—*On the Use of the Foramen Sœmmering of the Eye.* By F. Leaming, M. D., of Tippecanoe Co., Indiana. (With two wood-cuts.)

Precisely in the axis of the eye there is a yellow spot on the retina, one-tenth of an inch in diameter, with a small hole in the centre; between the yellow spot and the optic nerve there is a bifurcated fold of the retina, the opening of which is towards the yellow spot. These three marks, viz: the yellow spot, the foramen, and fold, are called after Sœmmering, their discoverer; but their uses, so far as I can learn, have not hitherto been explained.

If we close one eye and look upon the page of a book, we shall notice that the word in the axis of the eye, as well as the words immediately above and below it, are distinct, while the rest of the page is illegible. Perfectly distinct vision is confined to a very small space of the retina, and is bounded by the limits of the foramen in the centre of the yellow spot. But an opening in the retina, instead of perfecting, would destroy vision; we must necessarily conclude that, under the circumstances alluded to, the foramen is closed. Now, the foramen has sometimes been found closed by anatomists, but then the bifurcated fold had disappeared, and the only mark of its previous existence was a dent in the vitreous humour corresponding precisely to the fold. An open foramen with a fold of the retina; a closed foramen, and no fold of the retina; all this implies motion of the parts.

If we look at a distant object with both eyes open, and pass an ordinary ruler before one of them so as to exclude the distant object, the central part of the ruler will be invisible to that eye; that is, the central part of the retina has become insensible to light. The bounds of this insensibility can easily be defined, and they will be found to correspond with those of the yellow spot of Sœmmering. The following diagram will illustrate this sufficiently, the ruler being held about 12 or 15 inches distant, and made to pass before the left eye:—

Fig. 1.

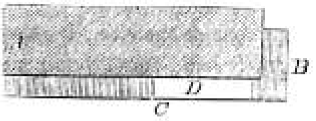

Fig. 2.

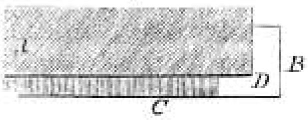

Fig. 1, A, represents the ruler seen by the right eye; B, that by the left; the outline of the extremity being faintly visible; the central part as far as C is transparent or invisible, while the distant object appears at D.

The ruler may now be passed further to the right, when the extremity at B will become visible again; showing that the power of becoming insensible to light, under these circumstances, is possessed only by the yellow spot of Sœmmering, and not by the retina at large. It is curious to watch the play of sensibility; sometimes the transparency expanding widely and in a moment contracting to a mere point.

The use of all this is evident. When two objects are presented (a very frequent occurrence), one in the axis of each eye, the mind is not perplexed by the blending of the two objects, but contemplates the one while the other is withdrawn. This may be further illustrated by Wheatstone's *Stereoscope.* Place before the glasses a printed page on which two pencil marks have been drawn vertically about two inches apart. Let the lines be thrown into one by the action of the eyes, and fix the attention on any word the lines appear to run through. At first, perhaps, there will be a blending of letters, so that no word can be made out, both foramina being closed and sensitive; presently a word will be distinct, and either be retained or alternate with a word through which the other pencil mark passes. We may infer that this is owing in the latter case to the alternate action of the foramina, and not to the alternate action of the eyes, for the vertical pencil marks remain blended.

I have made other experiments than these on this subject, but as they are more difficult, and all result in proving that the central parts of the retina have an action independent of the retina at large, and as those already given are sufficiently conclusive, I shall detail no more.

ART. X.—*Knife-Needle for the Operation for Cataract by Solution or Absorption.* By ISAAC HAYS, M.D.

THE operation for the removal of cataract by solution or absorption, has been deemed, by many surgeons, entirely inapplicable to hard cataracts, mainly in consequence of the difficulty of dividing such a lens by the needle ordinarily used for the purpose. The common straight needle cannot be made to cut well, beyond a short distance from the point, without being so thin as to endanger its breaking; and it is not possible to *cut* with a curved one. I have entertained the belief for several years, as is well known to my friends who are interested in the subject, that a needle better adapted for the purpose might be made something after the fashion of an iris knife, and more than three years since, I had such a one constructed by Mr.